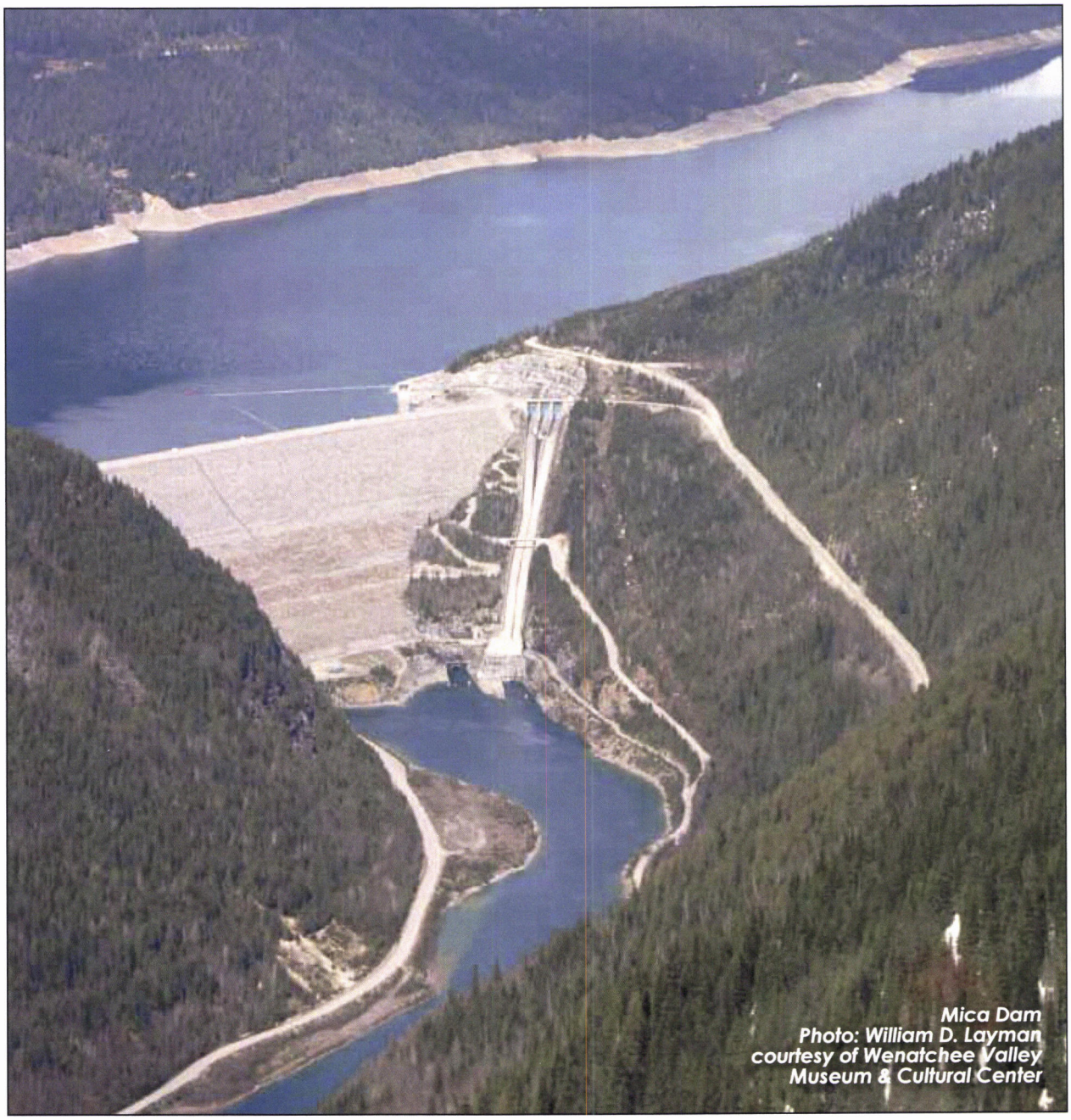


Mica Dam
Photo: William D. Layman
courtesy of Wenatchee Valley
Museum & Cultural Center

An Introduction to The Columbia River Treaty

Northwest Power and Conservation Council

WPIC
September 11, 2012
Exhibit 2

Background


FLOOD CRUMBLES VANPORT, HEAVY DEATH TOLL FEARED

Weather Report

The Oregonian

VOL. LXXXVIII—NO. 27,326 PORTLAND, OREGON, MONDAY, MAY 31, 1948 CITY EDITION 22 PAGES PRICE FIVE CENTS

Men Struggle for Lives as Flood Waters Engulf Great Housing Project

Lake Dike Gives Way, 18,500 Made Homeless, Scores Reported Hurt

3 Small Boys Drown on Raft

Breakers Surge In

1948 Vanport Flood

The Columbia is a powerful river.

With the fourth-largest volume of all the rivers in North America, the Columbia has the power to provide electricity to millions of people but also to flood thousands from their homes in low-lying areas along its banks in Canada, where the river begins, and the United States, where it flows into the Pacific Ocean. It was this potential for both power and devastation that prompted Canada and the United States, toward the end of World War II, to ask the International Joint Commission to study the river (the two countries created the Commission under the Boundary Waters Treaty of 1909, which guides the prevention and resolution of boundary water disputes between the two countries).

Shortly thereafter, in 1948, the Memorial Day Flood killed more than 50 people, destroyed Vanport, Oregon, the state's second-largest city, and caused flood damages in Trail, British Columbia, a few miles north of the international border. The huge flood focused public attention on the importance of flood control in the Columbia, where runoff can vary more than 40 percent from year to year.

Following the Commission's report and some 15 years of discussion and negotiation, in September 1964, the United States and Canada completed the Columbia River Treaty. The purpose of the treaty is to improve flood control and increase hydropower generation in the river basin the two countries share.

The minimum term of the treaty is 60 years, and it will continue indefinitely unless either country gives 10 years' notice of termination. Thus, the first opportunity for either country to give notice is in September 2014. The decision to continue, terminate, or modify the treaty will be made by the federal governments of both countries.

Flood Control Benefits

Under the treaty, three dams were built in British Columbia, where the river flows for the first 465 miles of its 1,200-mile length: Duncan (1967), Keenleyside (1968), and Mica (1973). Collectively, the three dams provide 15.5 million acre-feet of water storage. Mica was built large enough to accommodate an additional 5 million acre-feet, called non-treaty storage. Under terms of the Non-Treaty Storage Agreement, each country controlled half of that amount. The agreement expired in January 2011 and is being renegotiated. Together, the 20.5 million acre-feet of treaty and non-treaty storage comprise about half of the usable water storage in the entire Columbia River system. In 1964, the United States paid Canada $64.4 million for 60 years of assured flood control provided by the treaty dams, an amount that represented one-half of the estimated value of flood damages prevented through 2024. In addition, Canada must operate all remaining Canadian storage if "called upon" by the United States to meet forecast flood control needs in America that cannot adequately be met by all related American flood-control reservoirs that would be effective in controlling Columbia River flooding.

Power Generation Benefits

Dam operators in the United States and Canada currently coordinate releases of water from the treaty dam reservoirs, and the two countries share equally the resulting revenue from the sale of additional hydropower generated at Columbia River dams in the United States. This additional hydropower income is called the downstream benefit (also known as the Canadian Entitlement). Delivery of the Canadian Entitlement to British Columbia is a firm obligation of the U.S. government. The amount is determined annually five years in advance and is not adjusted for actual benefits realized. The Canadian Entitlement computed for the August 2010 through July 2011 operating year is 535.7 MW average annual energy, delivered at rates up to 1,316 MW. Currently the United States pays Canada between $250 million and $350 million per year for its half of the downstream benefit. The treaty also authorized Libby Dam on the Kootenai River in Montana (completed in 1973), with 5 million acre-feet of storage. Libby creates power and flood control benefits downstream in Canada and the United States.

The treaty also enabled a wide range of related benefits that affect British Columbia and the western United States including additional downstream hydropower projects; additional generators at most downstream Columbia River dams; two major regional power-coordination agreements; and Congressional approval for the construction of the electrical intertie between California and the Pacific Northwest; the sale of federal hydropower to California; and regional preference legislation in the United States for federal hydropower.

How the Treaty works

The treaty is implemented by two "entities:" the Bonneville Power Administration and the U.S. Army Corps of Engineers jointly for the United States, and BC Hydro, the provincial power authority in British Columbia, for Canada. Each year the entities produce an "assured operating plan" designed to achieve optimum power and flood-control benefits for six years into the future. With the assured operating plan as a base, the entities are allowed to produce "detailed operating plans" for the current year if they "may produce results more advantageous to both countries" than the assured plan, according to the treaty.

In producing the detailed operating plans, the entities also can agree to annual "supplemental operating agreements" as long as they produce mutual benefits for the two countries. These can include benefits other than power generation and flood control, such as flows for fish migration or reservoir levels to avoid dust storms. Actual dam operations are scheduled by the entities on a weekly basis and measured by flow at the international border.

The treaty also established the Permanent Engineering Board to handle tasks such as assembling flow records, assisting in settling differences that may arise between the entities, and creating annual reports. The Board has four members, two appointed by Canada and two appointed by the United States. Each country also appoints two alternates.

The 2014/2024 Review

With the first unilateral termination-notice opportunity in 2014, the entities are considering the future of the treaty, separately and together, in a process called the 2014/2024 Review. Together, the entities conducted studies of current and potential future power and flood-control operations. These initial studies aimed to provide background information for a regional discussion about how to model other factors such as enhanced flows for fish migration and additional water withdrawals on top of the power and flood-control operations under the existing treaty.

Separately, the U.S. Entity conducted a supplemental study to overlay dam operations in the United States required by the Endangered Species Act to protect threatened and endangered salmon and steelhead, and the Corps of Engineers is conducting flood-risk studies. These supplemental studies also assessed potential hydrologic effects due to climate change.

The treaty-review process provides a means for the U.S. Entity to consult with regional sovereigns and stakeholders regarding the future of the treaty. The *Columbia River Treaty 2014/2024 Review Sovereign Participation Process* establishes a framework for sovereign parties to collaborate and coordinate with the U.S. Entity in the process of conducting technical studies and developing and evaluating alternatives needed to better understand potential treaty futures. Through the 2014/2024 Review, the U.S. Entity and the regional sovereigns are working to prepare an informed recommendation to the U.S. Department of State as to whether or not it is in the best interest of the United States to continue, terminate, or seek to amend the treaty.

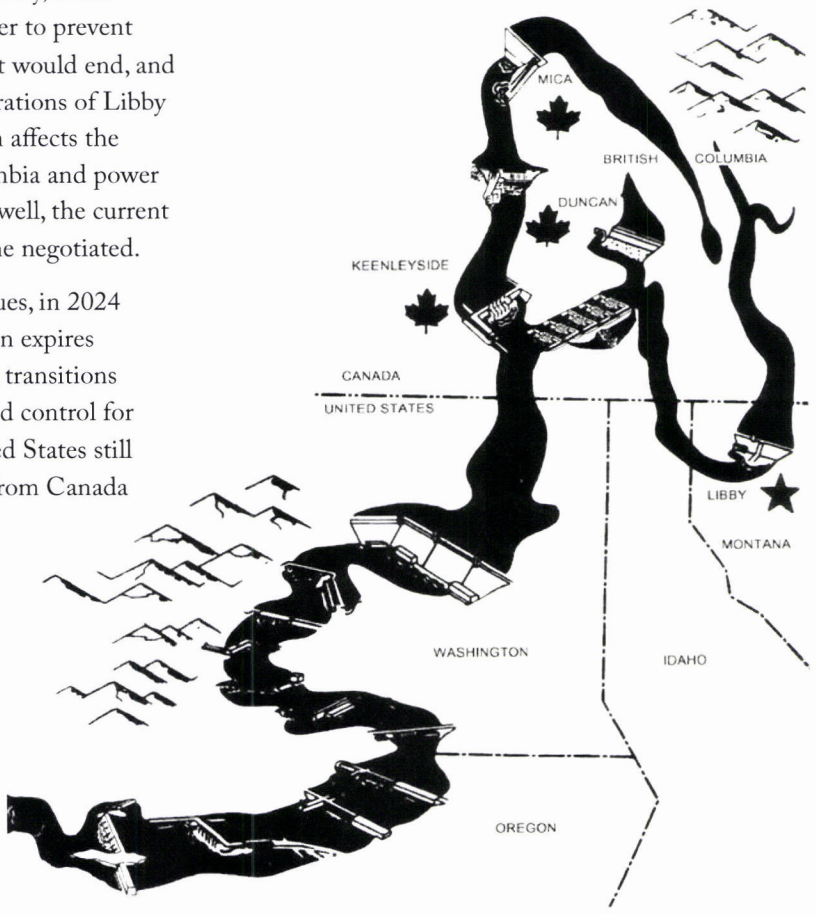
The U.S. Entity plans to submit its recommendation to the U.S. State Department in September 2013, one year before the first termination-notice opportunity.

What happens if the treaty is terminated? What happens if it continues?

If the treaty is not changed, coordinated annual planning of an optimum United States and Canadian power operation continues, the United States continues to deliver the downstream benefit to Canada, and there is certainty about operations of the Canadian dams through ongoing planning and coordination. Operations outside of the treaty could be negotiated in annual supplemental agreements, as they are now, as long as the special operations provide mutual benefits to the two countries.

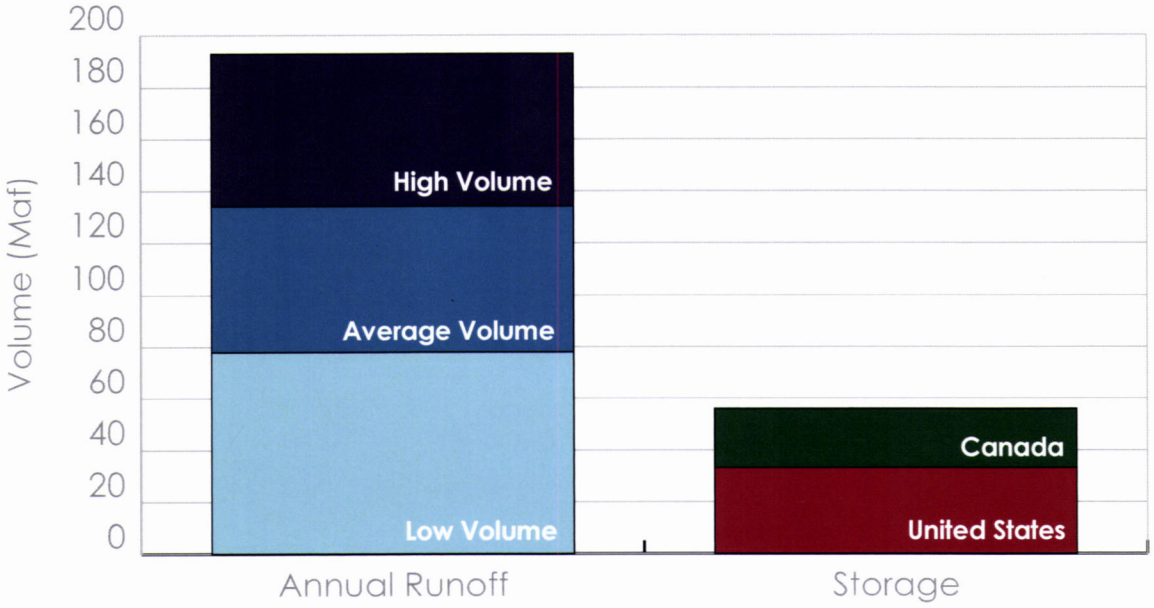
If the treaty is terminated, British Columbia would operate the three treaty dams for Canadian benefits only (subject to the Boundary Waters Treaty, which sets river levels at the international border to prevent flooding), the downstream power benefit would end, and the two countries would coordinate operations of Libby Dam for power and flood control, which affects the level of Kootenay Lake in British Columbia and power generation at Kootenay River dams. As well, the current treaty could be terminated and a new one negotiated.

Regardless of whether the treaty continues, in 2024 the *assured* annual flood control provision expires and the primary flood control operation transitions to what the treaty calls *"called-upon"* flood control for the life of the dams. However, the United States still may call upon flood-control assistance from Canada "to control potential floods in the United States of America that could not be adequately controlled by all the related storage facilities in the United States of America existing at the expiration of 60 years from the ratification date," according to the January 1964 protocol to the treaty, which clarified certain details. The protocol stipulates that called-upon storage would provide no greater degree of flood control after 2024 – 60 years from the ratification date—than prior to 2024 under the current coordinated flood-control operation, and that the United States would pay for operating costs and any resulting economic losses in Canada.

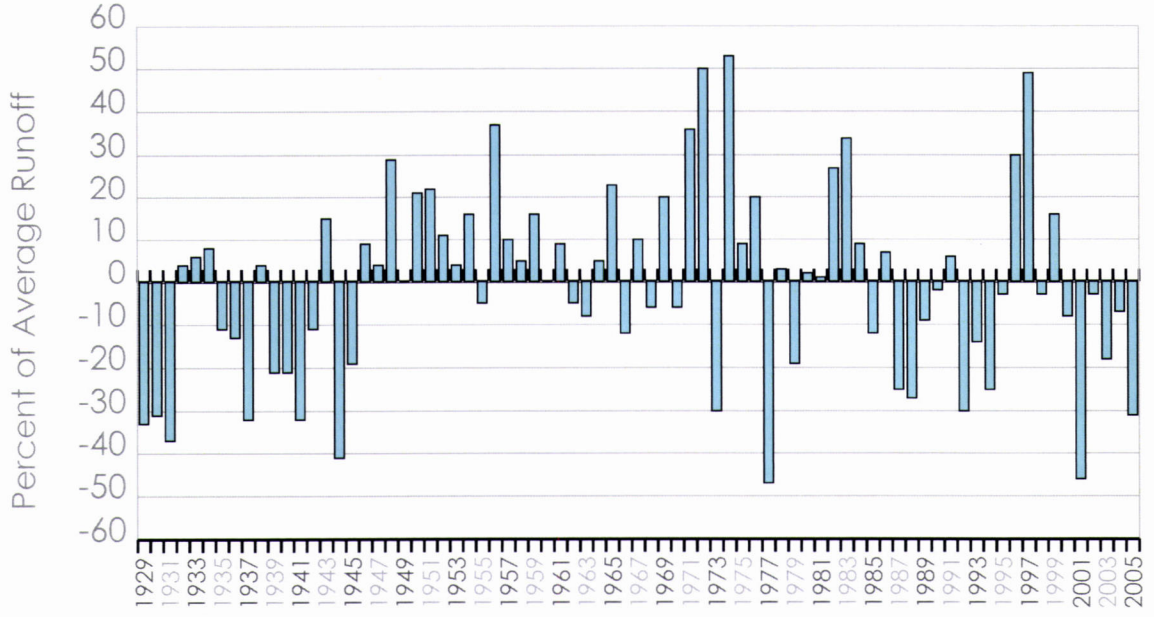


Graphic: Bonneville Power Admistration

Comparison of Storage Volume to Variations in Runoff



Historical Runoff at The Dalles



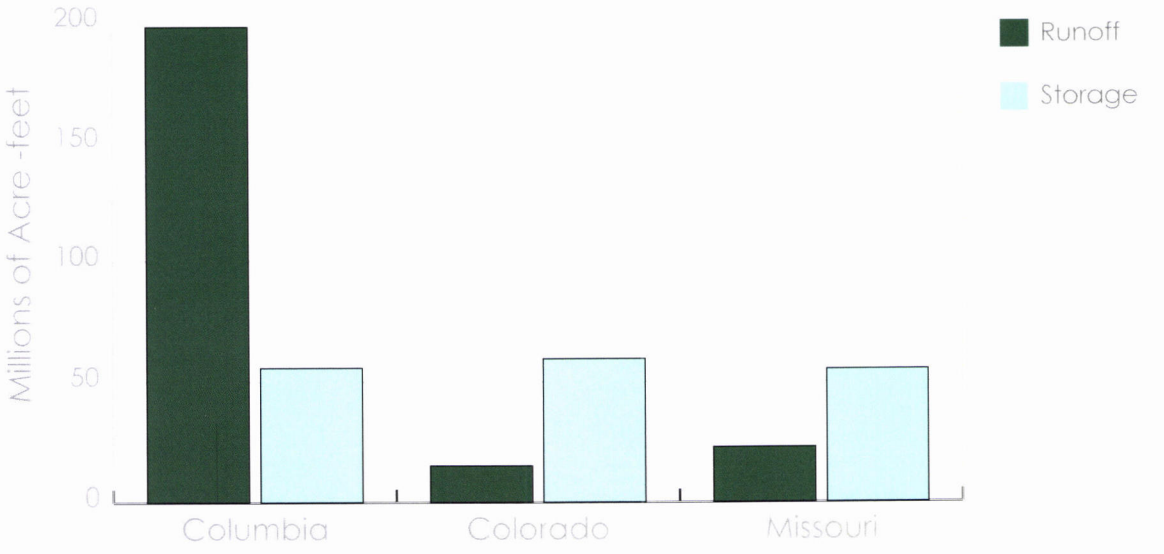
Role of the Northwest Power and Conservation Council

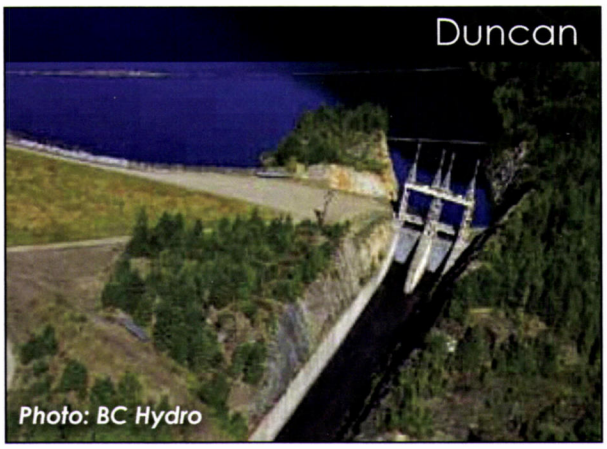
The Council does not have a statutory role in the treaty. However, under the Northwest Power Act of 1980 the Council is obligated to prepare and periodically revise a regional power plan to assure the Northwest an adequate, efficient, economical, and reliable power supply. The plan includes a program to protect, mitigate, and enhance fish and wildlife affected by hydropower dams in the Columbia River Basin. The administrator of the Bonneville Power Administration is required by the Power Act to make decisions that are consistent with the Council's plan, and the Corps of Engineers is required to take the Council's plan into account "to the fullest extent practicable" when making decisions about river and dam operations. The Power Act also directs the Council to inform and involve Northwest citizens regarding major regional power issues.

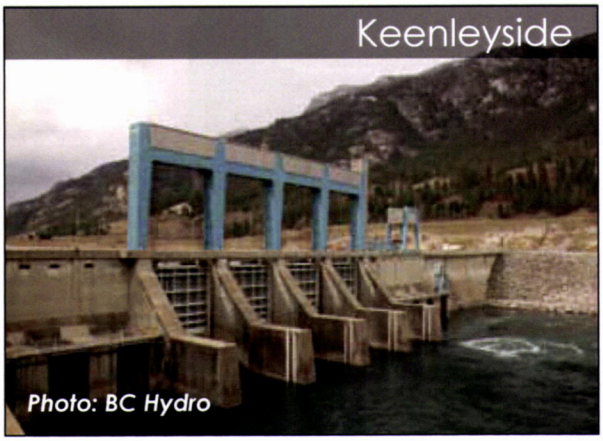
In the Sixth Northwest Power Plan (2010), the Council recognizes that the future presents a host of uncertain changes that may pose challenges for the successful integration of power system and fish and wildlife needs. These include possible new river and dam operations to protect fish and wildlife, additional wind-power generation in the region that could require more flexibility in hydropower generation, and possible changes to the water supply from climate change that might make it more difficult to deliver flows for fish and meet power needs.

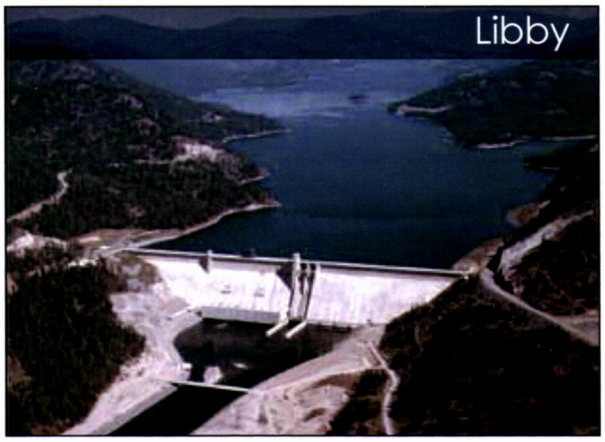
These changes and challenges may be influenced by how the Columbia River is operated regardless of whether the treaty continues, is revised, or is terminated. Accordingly, in its power plan (Action F&W-4 of the Action Plan), the Council commits to work with the Bonneville Power Administration and others to examine the impacts of possible changes to the treaty. The system flood control elements of the treaty expire during the Sixth Plan's 20-year study horizon, and possible modifications to both the flood-control and power-supply aspects of the treaty may affect both the region's power system and operations to benefit fish and wildlife.

Average Annual Runoff and Usable Reservoir Storage in Major Western River Basins









More information

- History of the Columbia River Treaty on the Council's website: www.nwcouncil.org/history
- Information on the treaty complied by the Council and the Columbia Basin Trust: www.nwcouncil.org/treaty
- Information on the treaty and its impacts in British Columbia, compiled by the Columbia Basin Trust: www.cbt.org/crt/
- Website of the 2014/2024 Columbia River Treaty Review: http://www.crt2014-2024review.gov/

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